

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
 CIRC ACCESSION NO--AP0128001
 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ME ALPHA,D,GALACTOSIDE IN PYRIDINE TREATED WITH BZCL AT MINUS 40DEGREES, THEN WARMED TO ROOM TEMP. GAVE 68PERCENT 2,3,6-TRIBENZOATE, M. 137-8DEGREES WHICH WITH MESO SUB2 CL IN PYRIDINE GAVE ME 2,3,6,TRI,C,BENZOYL,4, O,(METHYLSULFONYL),ALPHA,D,GALACTOPYRANOSIDE, M. 143.5-45DEGREES, WHICH WITH KSCN IN DMF 2 DAYS AT 140DEGREES GAVE 65.6PERCENT ME 2,3,6,TRI,O, BENZOYL,4,DEOXY,4,THIOCYANO,ALPHA,D,GLUCOPYRANOSIDE, M. 192-2.5DEGREES, WHICH INHOT ETCH WITH RANEY NI33 HR THEN TREATED WITH ME, ONA,MEOH AND KEPT 15 HR GAVE 77PERCENT ME 4,DEOXY,ALPHA,D,XYLO, HEXOPYRANOSIDE, M. 88-9.5DEGREES, WHICH HEATED INTH DOWEX-50 RESIN IN H FORM IN H SUB2 O 8.5 HR GAVE 61PERCENT 4,DEOXY,D,XYLO,HEXOSE, M. 125- 7DEGREES. TREATING 4,DEOXY,D,XYLO,HEXOPYRANOSE IN PYRIDINE WITH AC SUB2 O IN CHCL SUB3 AT 0-4DEGREES 43 HR GAVE 1,2,3,6-TETRA,O,ACETHL,4,DEOXY, D,XYLO,HEXOPYRANOSE, M. 105-7DEGREES, WHICH IN ACOH AT 0DEGREES WITH 40PERCENT HBR IN ACOH GAVE IN 3 HR AT ROOM TEMP. 96PERCENT 2,3,6,TRI,O,ACETYL, 3,DEOXY,ALPHA,D,XYLO,HEXOPYRANOSYL BROMIDE, A SYRUP, WHICH WITH (PHO) SUB2 PO SUB2 AG IN C SUB6 H SUB6 REFLUXED 2 DAYS IN THE DARK GAVE 42PERCENT SYRUPY DIPHENYL PHOSPHATE, WHICH WAS DIRECTLY HYDROGENATED OVER P ME TO 4,DEOXY,ALPHA,D,XYLO,HEXOPYRANOSYL PHOSPHATE, ISOLATED AS THE NA SUB4 SALT AND THE ET SUB3 N SALT. THE LATTER WITH URIDINE 5 PRIME,PHOSPHOMORPHOLIDE ET SUB3 N SALT IN ME SUB2 SO,C SUB6 H SUB6 W HR AT 60DEGREES GAVE PURE URIDINE 5 PRIME,(4,DEOXY,D,XYLO,HEXOPYRANOSYLPYROPHOSPHATE) (I), A NEW ANALOG OF "UDPG." G. M. KOSULAPOFF. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 638.61

BUDOVSKIY, I. I., MAKOSSEVSKIY, V. V., MELISHCHUK, I. S., REZNITSKIY, M. S., SOLOMKO, A. A., TRON'KO, V. D., PALENCHUK, M. R., Kiev State University

"A Meter for Determining High-Frequency Power Transmission With the Use of a Laser Signal"

Moscow, Pribery i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 110-112

Abstract: The paper describes an instrument for measuring high levels of power passing through transmission lines which operate in the 10 kHz - 30 MHz range. The meter is shown schematically in Fig. 1a. A laser beam with wavelength $\lambda = 1.15 \mu$ passes successively through electro-optical and magneto-optical crystals of GaAs and $Y_3Fe_5O_{12}$ located between polarization prisms P_1 . The relative intensity of the laser signal at the output of the optical system is $S/S_0 = [A - B(1 - \cos \Delta\varphi)] [1 + \cos 2\delta]$, where $A = 1/2 \cos^2(\alpha - \beta)$, $B = 1/4 \sin 2\alpha 2\beta$; $\Delta\varphi = \Delta\varphi_0 + \Delta\varphi_V$, $\Delta\varphi_0$ is the phase shift which is independent of the field, $\Delta\varphi_V$ is the phase delay induced by the electric field, $\delta = \gamma + \Delta\varphi_I$, $\Delta\varphi_I$ is the rotation of the polarization plane of the optical beam determined by the Faraday effect and dependent on the current in the magnetizing system, γ is the angle between polarization prisms P_2 and P_3 , α and β are the angles

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USSR

BUDOVSKIY, I. I. et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 110-112

between the axis x_1 of the GaAs crystal and polarization prisms P_1 and P_2 . Angles α , β and γ are illustrated in Fig. 1b.

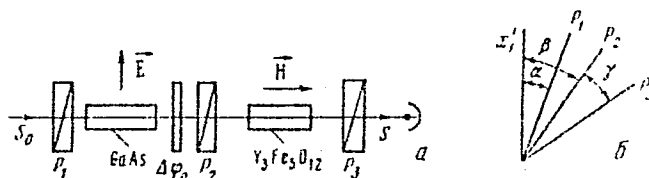


Fig. 1: a--schematic of the power meter; b--relative orientation of the polarizers.

A diagram of the power meter is shown in Fig. 2. The unit is a section of coaxial channel with wave impedance of 75Ω with rectangular inner conductor 4 fastened between washers 2. Crystals of GaAs 6 and $Y_3Fe_5O_{12}$ 7 are fastened to inner conductor 4 at right angles to each other. The crystals measure 2×2 mm in cross section. The GaAs crystal has a 45° cut which acts as a rotating mirror. Conductive cement is used to fasten electrode 5 to

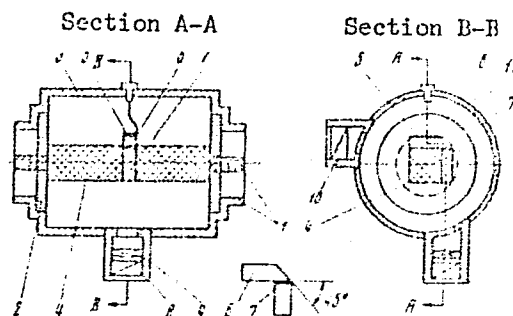
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BUDOVSKIY, I. I. et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 72, pp 110-112

the top of the GaAs crystal. The electrode is connected to the outer conductor 3. The central polarizer P_2 is a polaroid film 11, cemented between two crystals. Polarization prisms 10 and 8, as well as $\frac{1}{4}$ -wave plate 9, are used for the necessary adjustment. The meter is connected to the coaxial channel by means of rf disconnects 1.



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Fig. 2. Simplified diagram of the power meter.

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A study of the frequency response of the meter showed a sharp drop in the band above 600 kHz. This is caused by a temperature increase due to losses from high hysteresis impedance. This impedance is appreciably reduced by placing the $Y_3Fe_5O_{12}$ crystal in a transverse magnetic field. The optimum field strength was found to be close to 500 oersteds.

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USSR

UDC 621.374.5(088.8)

TRIFONOV, V. V., SHONUROV, S. A., BUDRIS, M.-B. K.

"Device for Manufacturing the Spiral Acoustic Line of an Acoustic Delay Line"

USSR Author's Certificate No 277836, Filed 25 Feb 69, Published 20 Oct 70
(from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G270P)

Translation: A device is proposed which contains a winding mechanism in the form of a rotating drum with a diameter equal to the outside diameter of the manufactured acoustic line. Supporting strips made of polyfluoroethylene resin are attached near the rim which is wound with a wire acoustic line.

These strips have holes converging on two sides to a cone located at the apexes of equilateral triangles.

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USSR

UDC 621.383.292.8

PEGOYEV, A.N., TRIFONOV, V.V., BUDRIS, M.V., TARASOV, V.A., LEMZYAKOV, S.R.,
SHEREMET'YEV, A.K. [Leningr. elektrotekhn. in-t -- Leningrad Electrical Engineer-
ing Institute]

"Source Of High Voltage For Supply Of A Photomultiplier"

USSR Author's Certificate No 266860, filed 8 July 66, published 15 July 70 (from
RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A259P)

Translation: The proposed source of high voltage for supply of a photomultiplier
contains a voltage regulator, the input of the comparison element of which is
connected to the output of the first section of the voltage converter. As the
operating element of the regulator a single-cycle pulse generator with controlled
frequency is used, and as a comparison element for the regulator, a silicon
stabilitron. S.D.

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Devices

USSR

UDC: 681.327.76

PEGOYEV, A. N., TRIFONOV, V. V., BUDRIS, M. V. K., LEMZYAKOV, S. R., TARASOV, V. A., SHEREMET'YEV, A. K., Leningrad Electrical Engineering Institute of Communications imeni V. I. Ul'yanov (Lenin)

"A Digital Memory Unit"

Moscow, Otkryitiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 9, Mar 71, Author's Certificate No 297071, Division G, filed 10 Dec 66, published 2 Mar 71, p 162

Translation: This Author's Certificate introduces: 1. A digital memory unit based on a magnetostriction delay line with cadence pulse generator. As a distinguishing feature of the patent, the effect of variations in ambient temperature is reduced by adding a magnetostriction resonator in the cadence pulse generator made from the same material as the acoustic line in the delay unit. 2. A modification of this memory unit distinguished by the fact that mismatch between the period of the delay line and the cadence pulse period due to nonuniformity in heating of sections of the device is eliminated by utilizing a heater such as the regulating transistor of an electronic voltage stabilizer for the supply system of the device. 3. A modification of this device distinguished by the fact that the range of permissible variations in ambient temperature is extended by adding a system for precisely

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PEGOYEV, A. N. et al., USSR Author's Certificate No 297071

matching the period of the delay line to the cadence pulse period. The actuating element of this system is made in the form of an electronic switch which controls the above-mentioned heater and an acoustic line heater. This latter heater is another controlling transistor in a stabilizer located on the housing of the acoustic line.

USSR

UDC: 621.374

BUDYANOV, V. P. and VYSHESLAVTSEV, V. N.

"Multivibrator With Base Resistance Connection"

Leningrad, Priborostroyeniye, No 2, 1972, pp 9-10

Abstract: Asserting that an important problem in pulse and conversion techniques is to better the stability of the output frequency in the face of a varying supply voltage, the authors, members of the S. Ordzhonikidze Moscow Aviation Institute, propose a multivibrator circuit which is distinguished by high stability of the oscillation frequency for a supply voltage varying within specified limits. The circuit obtains its stability by virtue of two stabilitrons in series with current-stabilizing diodes, which are in turn connected to the bases of the multivibrator transistors. Two diodes, one for each base, form the base resistances. The circuit was tested at an ambient temperature of 20° C, and the results of the tests are given in a curve.

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USSR

UDC: 621.318.58

SKRITSKIY, L. G., BUDYANOV, V. P., KALMAKOV, A. A., KRIVONOSOV, A. I.,
MILANOVICH, V. A., SHEVELEV, V. Ya., Moscow Construction Engineering Institute imeni V. V. Kuybyshev

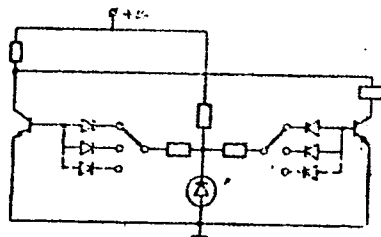
"A Photo Relay"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 16, Jun 71, Author's Certificate No 303672, Division H, filed 18 Jun 69,
published 13 May 71, pp 189-190

Translation: This Author's Certificate introduces a photo relay which contains interconnected photoreceiver, two groups of stabilitrons with different stabilization voltages and two transistors. Connected in the collector circuit of the first of the transistors is the winding of an electromagnetic actuating relay. As a distinguishing feature of the patent, tuning is facilitated and the accuracy with which the electromagnetic relay operates as a function of the light flux is increased by connecting the cathodes of all stabilitrons through switches to the centertap of a photoresistive voltage divider, connecting the anodes of stabilitrons with lower stabilization voltage to the base of the first transistor, and connecting the anodes of stabilitrons with higher stabilization voltage to the base of the second transistor. The collector-emitter junction of this transistor shunts the winding of the electromagnetic relay.

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SKRITSKIY, L. G., USSR Author's Certificate No 303672



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1/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EXCITED NUCLEAR STATES DURING CAPTURE OF NEGATIVE MUONS BY CARBON
AND OXYGEN -U-

AUTHOR--(05)-BUDYASHOV, YU.G., ZINOV, V.G., KONIN, A.D., MEDVED, S.V.,
MUKHIN, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1211-1218
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR ENERGY LEVEL, EXCITED NUCLEUS, MESON INTERACTION,
MUON, CARBON ISOTOPE, OXYGEN ISOTOPE, NUCLEAR SPIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1892

STEP NO--UR/0056/70/058/004/1211/1218

CIRC ACCESSION NO--AP0108222

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0108222

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBABILITIES FOR FORMATION OF EXCITED LEVELS OF THE DAUGHTER NUCLEI PRODUCED BY CAPTURE OF NEGATIVE MUONS BY CARBON OR OXYGEN NUCLEI ARE STUDIED. THE TOTAL TRANSITION RATE TO ALL EXCITED BOUND STATES OF THE B PRIME12 SEXTILE NUCLEUS IS DETERMINED FOR THE C PRIME12 PLUS MUNEGATIVE YIELDS B PRIME12 SEXTILE PLUS V REACTION; IT IS EQUAL TO (0.76 PLUS OR MINUS 0.14) TIMES 10 PRIME3 SEC NEGATIVE1. FOR THE O PRIME16 PLUS MUNEGATIVE YIELDS MINUS N PRIME15 SEXTILE PLUS N PLUS V REACTION THE TOTAL TRANSITION RATE TO N PRIME15 SEXTILE EXCITED BOUND STATES WITH POSITIVE PARITY IS FOUND TO BE (14 PLUS OR MINUS 5) TIMES 10 PRIME3 SEC NEGATIVE 1 AND THE TRANSITION RATE TO THE N PRIME15 SEXTILE SPIN THREE HALVES LEVEL IS (20 PLUS OR MINUS 5) TIMES 10 PRIME3 SEC NEGATIVE1. PART OF THE RESULTS STRONGLY DIFFER FROM THE THEORETICAL PREDICTIONS. FACILITY:
 OB"YEDINENNYI INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

Acc. Nr: **AP0047230**

Ref. Code: **URO554**

PRIMARY SOURCE: *B* Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1 ,
pp 86-89

THE EFFECT OF LAGOHILUS PREPARATIONS
ON THE PROCESS OF THE BLOOD COAGULATION
IN PATIENTS WITH HEMOPHILIA

L. P. Budya

Summary

A total of 17 patients with hemophilia were treated with lagohilus preparations. Prior to and after treatment the authors examined the condition of the blood coagulation system by the method of coagulography and thromboelastography. Positive clinical results were observed in 15 patients out of 17. The data of coagulograms and thromboelastograms showed the normalizing effect of these preparations on the blood coagulation system of patients with hemophilia.

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REEL/FRAME

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USSR

UDC 911.2:574.9:550.75

BUDYKO, M. I., Main Geographical Observatory imeni A. I. Voyeykov

"The Energy of the Biosphere and its Transformation by Man's Activity"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya,
No 1, 1971, pp 14-20

Abstract: For hundreds of millions of years before the beginning of the Quaternary Period, climatic conditions were comparatively uniform, with no cold regions. Then the air temperature in the high latitudes dropped and glaciation developed around the poles and from time to time spread to the temperate latitudes, narrowing the zones in which life was possible. On the basis of calculations set forth in some detail, the author believes that new climatic conditions will arise on the earth which together with worldwide industrial development will restore the situation that prevailed at the end of the Tertiary Period. The resulting changes in moisture availability, elevation of the level of the oceans, and many other phenomena will profoundly affect all living organisms and lay the foundation for powerful feedback

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USSR

BUDYKO, M. I., Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, No 1, 1971, pp 14-20

between them and the climate, such as never existed before. This feedback will arise from the reconstruction of the present energy system. Man's activity is already altering the transformation of energy in the cycle of biological processes. It is adding to the heat emitted by living organisms so that the biological processes will produce in turn more heat than that coming from solar radiation.

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1/2 007 UNCLASSIFIED
TITLE--WATER BALANCE OF OCEANS -U-

PROCESSING DATE--11SEP70

AUTHOR--BUDYKO, M.I., STROKINA, L.A.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA, I GIDROLOGIYA, 1970, NR 4, PP 49-58

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--OCEAN, WATER BALANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1987/1038

STEP NO--UR/0050/70/000/004/0049/0058

CIRC ACCESSION NO--AP0104436

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104436

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ON THE WATER BALANCE OF OCEANS AND OF THE WORLD OCEAN AS A WHOLE ARE GIVEN. THE PROBLEM OF ACCURACY OF THE AVAILABLE DATA ON MAGNITUDES OF BASIC OCEAN WATER BALANCE COMPONENTS IS DISCUSSED.

UNCLASSIFIED

USSR

UDC 547.757'759.3:542.958.1:543.544

YUDIN, L. G., PAVLYUCHENKO, A. I., BUDYLIN, V. A., MINKIN, V. I., and KOST, A. N., Moscow State University imeni M. V. Lomonosov, and Rostov State University at Rostov-na-Donu

"Indole Chemistry. XXI. Nitration of 3-Acylindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 11, Nov 71, pp 1506-1511

Abstract: In nitration of 3-acyl- and 3-carbetoxyindoles with various nitrating agents, relative prominence of hydrogen atom substitution in position 4, and replacement of the acyl radical by a nitro group in position 3, very largely depends on the immediate conditions of the experiment. Here the authors compare available experimental data with reactivity figures obtained with use of the LCAO-MO method (linear combination of atomic and molecular orbits). It is concluded that hydrogen atom substitution in the benzene ring of the models studied represents an electrolytic attack on the unprotonized molecule of the indole compound.

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USSR

UDC 547.754.756:542.944.1

KOST, A. N., GORBUNOVA, S. M., and BUDYLIN, V. A., Moscow State University
imeni M. V. Lomonosov, and the Novokuznetsk Scientific-Research Chemico-
Pharmaceutical Institute

"Indole Chemistry. XXVII. 2-Halogenacetylindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 11, Nov 9171, pp 1522-1526

Abstract: The halogen ketones of the indole series are important in the synthesis of aminoketones, ketonitrils, oxyketones and various other derivative compounds; but among these compounds, little study has been made of those containing a halogen-acyl radical in position 2 of the indole nucleus. From substituted 2-diazoacetylindoles, was synthesized a series of eight halogen-acetylindoles. Direct bromination of 3-methyl-2-acetylindole proceeds around the acetyl group, with formation of 3-methyl-2-bromacetylindole. In the case of 2-acetylindole, there is simultaneous bromination of the CH₃ group and of position 3 of the pyrrole ring.

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USSR

UDC 547.754.542.944.1

KOST, A. N., YUDIN, L. G., BUDYLIN, V. A., and ABDULLAYEV, M., Moscow State University imeni M. V. Lomonosov

"Indole Chemistry. XXV. Bromination of the Benzene Ring of Alkylindoles"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 11, Nov 71, pp 1512-1516

Abstract: The effect of bromination of the benzene ring of eight alkyl-indoles was studied. The reaction was carried out in concentrated H_2SO_4 (in the presence of Ag_2SO_4 , to assure protonizing of the pyrrole part of the molecule and facilitate formation of the bromine cation). Paramagnetic-resonance, infrared and mass spectra were obtained to determine the structure of the eight substituted compounds. It was found that indoles with alkyl groups in the pyrrole ring are brominized in position 5, while introduction of an alkyl in position 7 may alter the orientation and lead to formation of a 6-isomer.

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1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--KINETICS AND MECHANISM OF THE SULFONATION OF
2,3-DIMETHYL,1,7,TRIMETHYLENEINDOLE IN CONCENTRATED SULFURIC ACID
AUTHOR-(04)-VINNIK, M.I., ABRAMOVICH, L.D., YUDIN, L.G., BUDYLIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1061-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL-REACTION KINETICS, CHEMICAL REACTION MECHANISM,
SULFONATION, SULFURIC ACID, AQUEOUS SOLUTION, INDOLE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/1271

STEP NO--UR/0366/70/006/005/1061/1065

CIRC ACCESSION NO--AP0134945

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134945

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE REACTION IS 1ST ORDER. IT GIVES 2,3,DIMETHYL,1,7,TRIMETHYLENEINDOLE,5,SULFONIC ACID (I). THE STRUCTURE OF I WAS ESTABLISHED BY ITS CONVERSION TO THE AMIDE, ALSO PREPD. BY TREATING 2,3,DIMETHYL,1,7,TRIMETHYLENEINDOLE WITH CLSO SUB3 H TO GIVE THE ACID CHLORIDE OF I, WHICH WAS TREATED WITH NH SUB3. THE SULFONATION RATE CONSTS. INCREASE LINEARLY WITH SO SUB3 CONCN. IN H SUB2 SO SUB4 USED IN THE REACTION. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--FUNCTIONAL MOBILITY OF GUSTATORY RECEPTORS OF THE TONGUE IN PEPTIC
ULCER -U-
AUTHOR-(03)-BUDYLINA, S.M., ARTEMYEV, YE.N., RUSAKOVA, L.N. *B*
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 3, PP 43-45
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GASTROINTESTINAL SYSTEM, DIGESTIVE DISEASE, LESION, GUSTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1986/0809

STEP NO--UR/0504/70/042/003/0043/0045

CIRC ACCESSION NO--AP0102771

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0102771

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN PATIENTS WITH GASTRIC AND DUODENAL PEPTIC ULCER GUSTATORY SENSITIVITY WAS INVESTIGATED BY THE METHOD OF FUNCTIONAL MOBILITY. IT WAS REVEALED THAT THE LEVEL OF THE FUNCTIONAL MOBILITY OF THE GUSTATORY RECEPTORS OF THE TONGUE IN PEPTIC ULCER IS LOWER THAN THAT IN HEALTHY INDIVIDUALS. ALL THE PATIENTS EXHIBITED A DISORDER OF THE GASTRO LINGUAL REFLEX. IN PEPTIC DUODENAL ULCER THERE ARE THREE TYPES OF REACTIONS TO FOOD. THE TREATMENT CONDUCTED, AS A RULE, RAISES THE ACTIVITY OF THE GUSTATORY RECEPTORS. A REACTION TO FOOD IS RESTORED NOT IN ALL THE PATIENTS. INVESTIGATION OF THE GUSTATORY RECEPTION BY THE METHOD OF FUNCTIONAL LABILITY MAY SERVE AS AN ADDITIONAL TEST FOR CHARACTERIZATION OF THE CLINICAL PICTURE AND THE COURSE OF PEPTIC ULCER.

UNCLASSIFIED

11A0044798-

BUDYLIN Yu L.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243951 SELECTIVE THERMAL RECEIVER OF RADIATION for
absorption analytical instruments of the
type comprising a selective radiation absorber in
form of a gas mixture and a sensing element in form
of a diaphragm. The proposed receiver comprises a
solid radiation absorber, and the sensitive element
is in form of a series of metal wires with a high
TC of electric resistance.

The absorbers can be made of a material
whose dimensions vary in time owing to ageing etc.,
such as PTFE or similar plastic. It is proposed for
use for carbon dioxide gas analysers. The absorber
and the sensing element do not constitute a single
unit, but are in form of separate components close
to or in contact with each other.

Other organic plastics (celluloid, polyethy-
lene etc) can be used as absorbers for determination

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of other organic compounds (methane, ethane etc.).

Such receivers are highly selective, the absorber material is easily removable and selected, and the receiver components can be easily standardised.

18.1.68 as 1210964/26-25. PAVLENKO.V.A. et al.

ANALYTICAL INSTRUMENTS MANUFACTURE DES.OFFICE ACAD.

SCIENCES USSR. (1.10.69) Bul 17/14.5.69. Class 421.

Int.Cl.G 01n.

AUTHORS: Pavlenko, V. A., Shutov, M. D., Budylin, Yu. L., Sall', A. O.,
Yuzupov, G. G., Sankin, V. A.

Spetsial'noye Konstruktorskoye Byuro Analiticheskogo Priborostroyeniya
AN SSSR

2/2

19771628

1/2 040 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PROTECTIVE ZINC ALUMINUM COATING VACUUM DEPOSITED ONTO STEEL -U-
AUTHOR--(03)-BUDYUK, L.F., RAFALOVICH, D.M., ROYKH, I.L.
COUNTRY OF INFO--USSR **B**
SOURCE--KIEV, TEKHNLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP
63-70
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--ZINC PLATING, ALUMINUM PLATING, METAL COATING, BIBLIOGRAPHY,
TROPICAL ATMOSPHERE, VACUUM SUBLIMATION, VAPOR DEPOSITION, METAL
CORROSION, ATMOSPHERIC CORROSION, STEEL, CORROSION TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1999/1333

STEP NO--UR/0418/70/000/001/0068/0070

CIRC ACCESSION NO--AP0123291

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123291

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS ARE DESCRIBED FOR OBTAINING TWO LAYER, VACUUM DEPOSITED, ZINC ALUMINUM COATINGS. THE PROTECTIVE PROPERTIES OF THESE COATINGS ARE STUDIED IN VARIOUS AGGRESSIVE MEDIA. FULL SCALE TESTS WERE CONDUCTED. IT IS SHOWN THAT THE BEST PROTECTIVE PROPERTIES ARE EXHIBITED BY COATINGS WITH A ZINC THICKNESS OF 10 MICRONS AND MORE AND WITH AN ALUMINUM THICKNESS OF 5 MICRONS AND MORE. THESE COATINGS ARE RECOMMENDED FOR PROTECTION AGAINST CORROSION IN TROPICAL CLIMATES AND INDUSTRIAL ATMOSPHERES.

UNCLASSIFIED

USSR

UDC 539.377

BURAK, Ya. I., BUDZ S. F. (Physico-Mechanical Institute of Academy of Sciences Ukr SSR) (Kiev)

"Maximum Temperature Fields with Local Heating of Orthotropic Shells of Revolution"

Kiev, Prikladnaya Mekhanika, Vol 7, No 10, Oct 71, pp 48-56

Abstract: The variational problem of determining the optimal axisymmetrical temperature fields in orthotropic shells of revolution is considered. The appropriate Euler equation is derived, which together with solving equation of the problem constitute a complete system of equations for determining the extremum temperature field and the corresponding stresses and strains in the shell. A numerical analysis of the obtained solution is applied to the cases of conical and cylindrical shells under simplest conditions of local heating. The results show that maximal annular stresses on the inner and outer shell surfaces monotonously decrease with increasing heating area, while axial stresses on the outer surface increase from zero up to a certain value with increasing heating area.

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USSR

UDC 577.4

BUDZHIASHVILI, G. N.

"On a Way to Select the Optimum Method of Solving Pattern Recognition Problems"

V sb. Nekotor. zadachi raspoznavaniya obrazov i teorii grafov (Some Problems in Pattern Recognition and Graph Theory -- Collection of Works), Tbilisi, "Metsniyereba," 1972, pp 63-67 (from RZh-Matematika, No 6, Jun 73, Abstract No 6V740 by V. MIKHEYEV)

Translation: The article suggests a way to solve the following problem: Let A be a pattern recognition problem for the solution of which there is the set of methods $M = \{M_i\}$, $i=1, 2, \dots, n$. The set M here includes the two subsets M' and M'' , where the M' elements are learning methods i.e., methods of separating characteristics and evaluating them and the M'' elements are methods of classification recognition proper. It is necessary to select from the sets M' and M'' the methods M'_1, M' and $M''_j \in M''$ through the use of which an effective solution is obtained for problem A (the recognition of test images with the minimum permissible errors).

1/1

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USSR

BUDZHIASHVILI, G. N.

"One Method of Selection of an Optimal Method for Solution of a Pattern Recognition Problem"

Nekotor. Zadachi Raspoznavaniya Obrazov i Teorii Grafov [Some Problems in Pattern Recognition and Graph Theory -- Collection of Works], Tbilisi, Metsniyereba Press, 1972, pp 63-67 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V740, by V. Mikheyev).

Translation: A method is suggested for solving the following problem. Suppose A is a pattern recognition problem, which may be solved by a set of methods $M = \{M_i\}$, $i = 1, 2, \dots, n$. In this case, set M includes two subsets M' and M'' , where the elements of M' are the learning methods, i.e., the methods of separation of the characteristics and their evaluation, while the elements of M'' are methods of recognition of the classifications themselves. The problem is, using sets M' and M'' to select methods $M'_i \in M'$ and $M''_j \in M''$ which produce an effective solution of problem A (recognition of test patterns with minimum permissible errors).

1/1

- 115 -

Acc. Nr:

AP0048797

Abstracting Service:

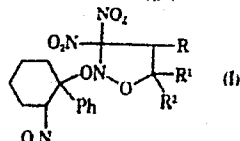
CHEMICAL ABST.

BUEVICH V.A.

Ref. Code:

4/70 UR0366

90354g Directed synthesis of 2-(2-nitroalkoxy)-3,3-dinitro-isoxazolidine derivatives. Buevich, V. A.; Altukhov, K. V.; Perekalin, V. V. (Leningrad. Gos. Pedagog. Inst. im. Gertsena, Leningrad, USSR). *Zh. Org. Khim.* 1970, 6(1), 187-8 (Russ). A mixt. of 1:1:1 1-phenylcyclohex-1-ene, $C(NO_2)_4$, and $RCH:CR^1R^2$ was kept at room temp., evapd., and chromatographed to give trisubstituted 3,3-dinitro-2-(2-nitro-1-phenylcyclohex-1-yloxy)isoxazolidines (I) (R , R^1 , and R^2 given): H, Bu, H; H,



amyl, H; H, Me_2CCH_2 , Me; H, CH_2Br , H; H, CH_2OH , H. In the same way, 3,3-dinitro-2-(2-nitro-1-phenylcyclohex-1-yloxy) perhydrobenzisoxazole was prepd. The alk. hydrolysis of I ($R = R^2 = H$, $R^1 = Bu$) gave 3-nitro-2-phenylcyclohexene.

CPJR

REEL/FRAME
19800560

USSR

UDC: 541.124

ALEKSANDROV, V. V., BUFETOV, N. S., PASTUKHOVA, T. V., TUKHTAYEV, R. K.,
Novosibirsk

"Using Pulse Calorimetry to Study the Kinetics of Reactions in Condensed Media"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 9, No 1, Jan/Feb 73, pp 75-83

Abstract: The authors investigate pulse calorimetry as a means of studying high-temperature reactions. Some of the advantages of this research procedure are its fundamental nature (there are almost no chemical reactions which do not involve release or absorption of heat), the fact that calorimetric methods are direct, which simplifies interpretation, and the possibility of making measurements where other methods cannot be used. It is shown that the best way to ensure that the time constant of the calorimeter is much shorter than the time constant of the reaction to be studied, is to use thin layers in the calorimetric cell construction. Some examples are given of experimental data obtained by pulse calorimetry.

1/1

Plant Pathology

USSR

BUGA, S., Director, Laboratory of Phytopathology, Belorussian Scientific Research Institute of Plant Protection, Candidate of Biological Sciences

"Dangerous Grain Diseases"

Minsk, Sel'skaya Gazeta, 4 Aug 72, p 3

Abstract: This year, due to various weather conditions, winter and spring wheat, barley, and rye were severely attacked by root rot. Extent of damage on some farms, causes and characteristics of root rot are described. The following steps must be taken to minimize damage from root rot: Crops must be harvested rapidly; harvesting machinery must be carefully adjusted, since traumatized seeds produce shoots which are less resistant to disease; seeds from undeveloped and underdeveloped grains must be carefully cleaned, as good seed has a high resistance to disease. Also seeds must be chemically disinfected; plant remains must be deeply and thoroughly plowed under in the autumn cultivation; grains should be sown over intertilled crops and grasses, not over grains; winter crops must be sown according to optimal norms for each culture and at the end of the optimal period; and soil fertilizers must be used to correspond to prescribed soil analyses.

1/1

Acc. Nr:

AP0055908

Abstracting Service:

CHEMICAL ABST. 6-70

Ref. Code:

4R0065

113427z Dependence of energy losses in power-drive units of tractors on oil viscosity. Bugakov, Yu. S. (USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(2), 46-9 (Russ). Power losses during idling and during operation at 25 kg-m load (85% of the nominal) for DT-54A tractor transmissions filled with DS-8 oil decreased from 4.5 to 0.525 and from 7.4 to 1.0 kg-m as the temp. was raised from -26 to +30°. At an air temp. of -15°, 3-3.5 hr of continuous operation was required to reach const. oil temp. During the first 2-3 hr of daily operation, power losses at -20° were 21 and 60% for high speed DT-75 and AK-15 tractor transmissions lubricated with DS_p-8 and autotractor oil Z. Losses were minimal when oils were chosen having viscosities <200 cSt during the warm-up period. Addnl. fuel expenses when DS_p-8 oil was used at 0 and -22° were 3.8 and 13.5%, resp., above those at milder temps.

Lucile S. Davison

REEL/FRAME
19841235

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Inorganic Compounds

USSR

UDC 546.799.3 226-386+546.791.6 226-386

MEFOD'YEVA, M. P., KROT, N. N., BUGAKOVA, L. N., and GEL'MAN, A. D., Institute of Physical Chemistry, Acad. Sc. USSR

"Synthesis of Some Neptunium (VI) and Uranium (VI) Sulfates"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72, pp 1423-1428

Abstract: Complex sulfates of hexavalent neptunium and uranium were prepared from aqueous solutions of the starting materials. Following complexes were isolated: $K_2NpO_2(SO_4)_2 \cdot 2 H_2O$, $Cs_2NpO_2(SO_4)_2$,

$Cs_2(NpO_2)_2(SO_4)_3$, $[Co(NH_3)_6]_2NpO_2(SO_4)_4 \cdot n H_2O$ ($n = 5$ or 8),

$[Co(NH_3)_6]_2UO_2(SO_4)_4 \cdot n H_2O$ ($n = 5$ or 8), $[Co(NH_3)_6]_2(UO_2)_2(SO_4)_5 \cdot 6H_2O$,

$[Co(NH_3)_6]_4Cs_6[UO_2(SO_4)_4]_3 \cdot 8 H_2O$.

It has been established that the bond strength of neptunium and uranium with the SO_4 groups increases when the $Co(NH_3)_6^{2+}$ ions are partially substituted in the internal sphere with the Cs^+ ions. The bond strength of oxygen with

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USSR

MEFOD'YEVA, M. P., et al, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72, pp 1423-1428

neptunium in disulfate complexes is about the same as in the tetrasulfates; these complexes may coexist in the solutions. Selective isolation of one of these forms in preference to the other depends on the selection of the cation. The frequencies of the antisymmetric vibrations in the IR spectra of uranium and neptunium complexes are about the same for similar composition types.

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- 20 -

USSR

UDC 533.951.8

B
BUGAREV, A. V., DEGTYAREV, L. M., SAMARSKIY, A. A., Corresponding
Member of the Academy of Sciences USSR, FAVORSKIY, A. P.

"Flow of a Supersonic Conducting Gas in an Inhomogeneous Magnetic
Field"

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970, pp 520-
523

Abstract: A supersonic homogeneous gas flow with finite electrical conductivity in a plane channel of constant width is studied. An external magnetic field is applied at time $t = 0$. It is assumed that the magnetic Reynolds number is small and that the magnetic field H_z is a given function of the x -coordinate. The nonstationary magnetohydrodynamic equations for the system are given. It is assumed that the flow at entry is supersonic ($M_1 = 2.92$). Previous analytical solutions of this problem have assumed that R_m is much less than 1, but since this is not always valid, it is not assumed here and numerical methods are applied. Changes in the flow parameters at entry into and exit from the magnetic field are graphed and analyzed. The following conclusions are drawn: 1. A considerable rearrangement of the
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USSR

BUGAREV, A. V., et al, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970, pp 520-523

supersonic flow and the electric current field can occur under finite values of R_m . 2. The degree of retardation of the flow and its inhomogeneity in the transverse cross section are intensified with an increase in R_m . There is a critical value of R_m which, if exceeded, leads to considerable restructuring of the flow to supersonic. The value of the integral joule heating is established asymptotically with respect to R_m . 3. A smooth change in the magnetic field reduces the degree of retardation of the flow but worsens its homogeneity over the cross section. 4. A considerable pressure and velocity gradient occurs along the wall which can effect flow in the boundary layer.

2/2

USSR

UDC 547.756 + 541.67

TSUKERMAN, S. V., BUGAY, A. I., IZVEKOV, V. P., and LAVRISHIN, V. F.,
Khar'kov State University imeni A. M. Gor'ki

"Dipole Moments of Indole Analogs of Chalcone"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 8, Aug 72, pp 1083-1086

Abstract: On the basis of dipole moment measurements, the most probable conformations of 22 indole analogs of chalcone have been established: in respect to the substituents on the vinyl group they are trans-isomers, and considering the orientation of the aliphatic double bond with respect to the carbonyl group, they represent s-cis-conformers. The predominant rotational isomer appears to be the anti-s-cis form, although not exclusively so. Introduction of electron donating and electron accepting substituents onto the phenyl ring of the 1-(indolyl-3)-3-phenylpropenones leads to a slight decrease of the dipole moments. This change in the dipole moment correlates to some extent with the Hammett σ -constants. When the phenyl ring in isomeric 1-(indolyl-3)-3-phenylpropenones is substituted by a furyl, thienyl or selenylenyl group a small increase in the dipole moment is observed.

1/1

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1/2 G10 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SYNTHESIS OF UNSATURATED KETONES AND DERIVATIVES OF 2 PYRAZOLINE
CONTAINING AN INDOLE RING -U-
AUTHOR--(04)--TSUKERMAN, S.V., BUGAY, A.I., NIKITCHENKO, V.M., LAVRUSHIN,
V.F.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SGEDIN. 1970, (3), 399-403
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, PYRAZOLE, INDOLE DERIVATIVE, KETONE,
ALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0226

STEP NO--UR/0409/70/000/003/0399/0403

CIRC ACCESSION NO--AP0120010

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE—20NOV70

CIRC ACCESSION NO—AP0126010

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHOD A. A SOLN. OF 0.01 MOLE APPROPRIATE ALDEHYDE AND ME KETONE IN 8-10 ML (CH SUB2 OH) SUB2 WAS TREATED WITH 1 ML 40PERCENT NAOH AND THE WHOLE WAS HEATED 20-30 MIN AT 120-35DEGREES TO YIELD RCOCH:CHR PRIME1 (1). METHOD B. APPROPRIATE ALDEHYDE AND KETONE (0.01 MOLE EACH) WAS REFLUXED 15-25 MIN IN 7-10 ML ETOH WITH 1 ML 20PERCENT NAOH. METHOD C. SIMILAR TO METHOD A, BUT WITH HEATING 40 MIN AT 180-90DEGREES. METHOD D. ALDEHYDE AND KETONE (0.01 MOLE EACH) WAS HEATED 20-30 MIN AT 170-85DEGREES IN 8-10 ML (CH SUB2 OH) SUB2 WITH 1 ML PIPERIDINE. THE FOLLOWING I WERE PREPD. (R, R PRIME1, M.P., M.P. 2,4 DINITROPHENYLHYDRAZONE, METHOD USED, AND PERCENT YIELD GIVEN): SHOWN ON MICROFICHE. FACILITY: KHAR'KOV. GOS. UNIV. IM. GOR'KOGO, KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC: 669.715:539.4

KOLESNIK, V. V., BUGAY, V. I., Kiev

"Study of Cyclical Strength of D1T Alloy Considering Scattering of Results"

Kiev, Problemy Prochnosti, No 11, Nov 1972, pp 91-92.

Abstract: Results are presented from studies of the cyclical strength of D1T alloy over 10^8 loading cycles. Full probability diagrams of cyclical strength and endurance curves are constructed with various probabilities of rupture for smooth specimens and specimens with stress concentrators. It is established that D1T alloy, with its high sensitivity to stress concentrators, has no physical endurance limit in the range up to 10^8 loading cycles; numerical values of the endurance limits are presented.

1/1

USSR

UDC 51:155.001.57:612.82

ZOZULYA, Yu. I., CHERNOV, V. G., BUGAY, Yu. P.

"Mathematical Models of Detectors in the Frog Retina"

Probl. Bioniki. Resp. Mezhd. Nauchno-tekhn. Sb. [Problems of Bionics, Republic Interdepartmental Scientific and Technical Collection], No 4, 1970, pp 16-22, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V675 by the authors).

Translation: The construction and analysis of a statistical model of the detector for long-term contrast (contour detector) are studied.

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF A LOW ASH SULFONATE ADDITIVE BASED ON EXTRACTS FROM
THE PHENOLIC REFINING OF OILS, AND ITS PERFORMANCE PROPERTIES -U-
AUTHOR--(03)-BUGAYCHUK, A.M., DZHASHITOV, E.A., FEDOTOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 26-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SYNTHESIS, PETROLEUM PRODUCT, ANTIWEAR ADDITIVE,
DETERGENT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/1946

STEP NO--UR/0318/70/000/005/0026/0027

CIRC ACCESSION NO--AP0133790

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXTS. WERE SULFONATED AT 40-50DEGREES WITH 20-5PERCENT OLEUM (18-20PERCENT SO SUB3). THE UPPER LAYER, CONTG. A MONOSULFO ACID CONC., WAS NEUTRALIZED WITH BA(OH) SUB2 AT 30-40DEGREES TO YIELD 45-50 WT. PERCENT (BASED ON THE EXT.) BA SALTS OF SULFO ACIDS. THE ADDITIVE HAD DETERGENT AND ANTIWEAR PROPERTIES.

FACILITY: PERM. POLITEKH. INST., PERM, USSR.

UNCLASSIFIED

USSR

UDC 621.892:543.845

BUGAYCHUK, A. M., and FEDOTOV, A. S.

"The Problem of Determining the Content of Sulphur by a Gravimetric Method in Lubricating Oils"

Sb. nauchn. tr. Permsk. politekhn. in-t (Collected Scientific Works of Perm' Polytechnical Institute), No 52, pp 45-47, 1969 (from Referativnyy Zhurnal Khimiya, No 3, Vol 2, 10 Feb 70, Abstract No 3 P293)

Translation: In determining the content of S in lubricating oils using the VTI method (GOST 1413-49), the BaSO_4 sediment formed may be contaminated with $\text{Fe}(3+)$ cations. It is suggested that the $\text{Fe}(3+)$ be reduced to $\text{Fe}(2+)$ (without involving other ions in the solution) using ascorbic acid (10% by weight of the charge of oil taken). This should provide for more precise determination of the S content in fresh and spent oils.

A. B. Vipper

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1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INTENSIFICATION OF THE FINISHING OF A CUT STAPLE FIBER -U-
AUTHOR--(05)-KREMNEV, O.A., BOROVSKIY, V.R., SATANOVSKIY, A.L., KICEL,
T.B., BUGAYCHUK, N.F.
COUNTRY ~~OF INFO~~--USSR **B**
SOURCE--KHIM. VOLOKNA 1970, (2), 53-5 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--RAYON, TEXTILE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1661 STEP NO--UR/0183/70/000/002/0053/0055
CIRC ACCESSION NO--AP0125283
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125283

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COM. CONTINUOUS WASHING OF RAYON STAPLE WITH DIL. NAOH SOLN. AT 78DEGREES REQUIRES 135 SEC TO REDUCE ITS S CONTENT BELOW 0.075PERCENT. THE INSERTION OF ROLLERS, WHICH COMPRESS THE STAPLE PERIODICALLY DURING ITS PASSAGE THROUGH THE BATH, AND TEMP. INCREASE TO 95DEGREES REDUCED THIS TIME TO 20-30 SEC. THE WASHING TIME WAS ALSO REDUCED TO 15-20 SEC WHEN VIBRATIONS OF 200 CYCLES-MIN AND 50 MM AMPLITUDE WERE APPLIED TO THE WASH SOLN. HELD AT 80DEGREES. BOTH OF THESE METHODS INCREASED PRODUCTIVITY. THE VIBRATIONS GAVE SOFTER, EASIER TO DRY FIBERS. FACILITY: INST. TEK. TEPLIFIZ., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 541.15

BUGAYENKO, L. T., ZADOR, E., BELEVSKIY, V. N., GOLUBEV, V. B.,
Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of
Higher and Secondary Specialized Education RSFSR

"Isotope Effect in Radiolysis of Frozen Aqueous Solutions of Acids"

Moscow, Khimiya Vysokikh Energii, Vol 4, No 5, Sep-Oct 70, pp 468-
469

Abstract: The article describes results of a study of the isotopic enrichment of atomic hydrogen in frozen solutions of perchloric (2.4 M) and sulfuric (3.9 M) acids. Within the accuracy limits of relative EPR measurements (20 percent) the isotopic enrichment factor is practically constant over the entire investigated range of isotopic composition and equals 2.0 ± 0.4 , which is considerably lower than in liquid solutions.

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- 17.1 -

Acc. Nr.: AP0041005

B

Ref. Code: UR 0380

USSR

UDC: 620.171.5

BUGAYENKO, S. Ye.

"Modeling Screw Joint Tightness in Frozen Devices"

Moscow, Mashinovedeniye, No. 1, 70, pp 69-74

Abstract: This article analyzes two methods for dealing with the problem of deformations in machined objects united by threaded joints when the objects are at freezing temperatures. At these temperatures, dowels cannot be used for tightening joints because they tend to buckle. The two methods are: the use of elastic elements, such as springs, for tightening parts; the use of materials frozen in advance. The model chosen for the author's calculations is a joint held by springs and dowels, with every part of the joint given an order number. Where the object is made up of units joined by threaded fittings, the stress of the

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18

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AP0041005.

tightening varies with the change in length of the joined details along the line of the tightening stress. In the calculations, therefore, it is assumed that the change in length of the details occurs along this length. The computations begin with a condition, in equation form, which must be satisfied in the frozen model under stress; the subscripts of the quantities in this expression correspond to the order numbers of the parts. This equation is simplified for the particular case in which springs are not used, there is no preliminary stress at room temperature, all the details of the model are made of optically sensitive materials, and the details frozen in advance under the same stress. Results of the investigations conducted in accordance with the method developed for attacking the problem are given.

2/2 *sum*

19750746

USSR

UDC 669.295.046.78

VELIKORODNYY, I. G., BEREZHNOY, N. N., BUGAYENKO, V. A., BERNADO, V. F.,
VOSKERICHYAN, A. KH.

"Study of the Magnetic Properties of the Process of Slag Pelletizing"

Sb. nauch. tr. N.-i. i proyekt. in-t po obogashch. i aglomer. rud chern. met.
(Collected Scientific Works of the Scientific Research and Planning Design
Institute with Respect to Beneficiation and Sintering of Ferrous Metal Ores),
1971, vyp. 15, pp 54-56 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No
4G210)

Translation: The laboratory studies at the Mekhanobrchermet Institute with
respect to pelletizing Ti slag and Fe and Ti concentrates established the
possibility of obtaining pellets of satisfactory strength. One illus-
tration and 1 table.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ANALYSIS OF A THYRATRON CIRCUIT WITH ONE STABLE STATE -U-
AUTHOR--(02)-BAKALINSKIY, V.P., BUGAYENKO, V.V.
COUNTRY OF INFO--USSR
SOURCE--AVTOMATIKA, VOL. 15, MAR.--APR. 1970, P. 80-83
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--GLOW DISCHARGE, THYRATRON, ELECTRIC VIBRATOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1032 STEP NO--UR/0102/70/015/000/0080/0083
CIRC ACCESSION NO--AP0136459
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136459

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARATIVE ANALYSIS OF A CONVENTIONAL UNIVIBRATOR EMPLOYING GLOW DISCHARGE THYRATRON AND A PROPOSED UNIVIBRATOR WHICH DIFFERS FROM THE FIRST IN THAT THE TIME SETTING RC CIRCUIT IS CONNECTED BETWEEN THE THYRATRON CATHODES AND NOT BETWEEN THE CATHODE AND THE CASING (AS IS CONVENTIONALLY THE CASE). IT IS SHOWN THAT THE MODIFICATION PROPOSED MAKES IT POSSIBLE TO INCREASES UNIVIBRATOR TIME LAG BY SEVERAL TIMES, THE R AND C VALUES BEING EQUAL.

UNCLASSIFIED

USSR

BUGAYEV, A. S.; GULYAYEV, Yu. V.; SHKERDIN, G. N. (Institute of Radio Engineering and Electronics, USSR Academy of Sciences, Moscow)

"A Theory of Acoustic-Electron Effects in Semiconductors with Hot Electrons"

Leningrad, Fizika Tverdogo Tela; September, 1970; pp 2654-9

ABSTRACT: A theory is developed for the interaction of classical ultrasound with electrons in semiconductors in which the relaxation time of the electron energy is comparable with the period of the sound wave (such a condition can take place in semiconductors with high mobility and small effective electron mass -- InSb, GaAs, etc. -- with low temperatures). It is shown that the well-known acoustic-electron effects here have a number of significant features. In particular, an electron temperature (or average electron energy) wave accompanying the sound wave and having the same frequency arises. This leads to a shift in the threshold of sound amplification; furthermore, the Weinreich relationship (Phys. Rev., 107, 317, 1957) does not hold. A constant positive correction to the electron temperature caused by the sound wave is found, and it is shown that under these conditions for a sound wave the electron gas can be heated as well as cooled.

USSR

UDC 537.591

BUGAYEV, E. V., KOTOV, Yu. D., and ROZENTAL', I. L.

"Cosmic Muons and the Neutrino"

Cosmicheskiye myuony i neytrino (cf. English above), Moscow, Atomizdat, 1970, 320 pp, ill., 1 r., 91 k. (from RZh-Fizika, No 4, Apr 71, Abstract No 4V446K)

Translation: Contents: Part I. Muons. Chapter 1. Electromagnetic Interactions of Muons. Chapter 2. Characteristics of Muon Flux at Sea Level. Chapter 3. Passage of Muons Through Matter. Chapter 4. Formation of High-Energy Muons. Chapter 5. Muons in Broad Atmospheric Showers, Chapter 6. Certain Conclusions. Part II. The Neutrino. Chapter 7. Introduction and Theoretical Aspects of Neutrino Physics. Chapter 8. Neutrino Experiments on Accelerators. Chapter 9. Search for the Neutrino From the Sun. Chapter 10. Neutrino Astrophysics. Chapter 11. Experiments With Neutrinos From Cosmic Rays.

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Acc. Nr.: AP0046765

Ref. Code: UR0125

USSR

UDC 621.791:14.011.539.163

SELEZNEV, A. G., KHRISTOFOROV, A. I., MOZHAROV, M. V., BUGAYEV, G. P.

"Radioactive Isotope Investigation of the Structure of the Transition Layer During Spin Welding"

Kiev, Avtomaticheskaya Svarka (Automatic Welding), No 1, 1970, pp 21-24
(from Avtomaticheskaya Svarka, No 1, 1970, p 79)

Translation: Results are presented from using tagged atoms to study the structure of the contact layer during spin welding of heterogeneous metals. During spin welding of steel 30 and R18 and also steel 30 and amaco-iron, no essential movement of the carbon atoms is observed. The absence of carbon atom diffusion is demonstrated to a depth of more than 5-10 microns. There are 2 illustrations and a 6-entry bibliography.

Reel/Frame
19790069

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PERICLASE SPINELLIDE MANUFACTURED ARTICLES BASED ON MAGNESITE
POWDER FROM CAUSTIC DUST -U-
AUTHOR-(03)-BUGAYEV, N.F., SIMONOV, K.V., VYUNNIKOVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, OGNEUPORY, NO. 5, MAY 70, PP 12-13

DATE PUBLISHED----MAY70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--REFRACTORY PRODUCT, ROASTING FURNACE, SPINEL, MAGNESIUM OXIDE,
THERMAL STABILITY/(U)COST 10888 64 REFRACTORY QUALITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0707

STEP NO--UR/0131/70/000/005/0012/0013

CIRC ACCESSION NO--A20134442

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134442

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF A STUDY OF THE CHARACTERISTICS OF MANUFACTURED OBJECTS MADE FROM POWDER OBTAINED BY ROASTING CAUSTIC MAGNESITE IN A ROTATING OVEN WITH SINTERING ADDITIVES. THE OBJECTS WERE TESTED WHILE IN ACTUAL USE. A TABLE GIVES THE CHEMICAL COMPOSITION OF THE POWDERS. ANOTHER TABLE GIVES THE CHARACTERISTICS OF THE MANUFACTURED ARTICLES. THE OBJECTS TESTED SATISFIED ALL REQUIREMENTS, EXCEPT THAT OF THERMAL STABILITY, OF GOST, ALL UNION STATE STANDARD, 10888-64. FACILITY: MAGNEZIT PLANT.

UNCLASSIFIED

USSR

B
BUGAYEV, N. P., SIMONOV, K. V., V'YUNNIKOVA, YE. I. ("Magnezit"
Plant), NAZAROV, K. S. (Magnitogorsk Metallurgical Combine)

"Periclase Spinellide Manufactured Articles Based on Magnesite
Powder From Caustic Dust"

Moscow, Ogneupory, No 5, May 70, pp 12-13

Abstract: The results are given of a study of the characteristics
of manufactured objects made from powder obtained by roasting
caustic magnesite in a rotating oven with sintering additives.
The objects were tested while in actual use. A table gives the
chemical composition of the powders. Another table gives the
characteristics of the manufactured articles. The objects tested
satisfied all requirements, except that of thermal stability,
of GOST (All-Union State Standard) 10888-64

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Refractory Materials

USSR

B
BUGAYEV, N. F., SIMONOV, K. V., CHERNYAVSKAYA, V. P., KATSAY,
YE. V., VORONIN, I. G.

"Refractories of Caustic Magnesite"

Moscow, Ogneupory, No 3, Mar 70, pp 2-3

Abstract: This article describes the experience in manufacture and service testing of magnesite refractories based on 0-1 mm fraction powder produced by roasting caustic magnesite without sintering additives. The experimental products were made using the technological process for the production of ordinary magnesite products and roasted at 1650°C. The properties of the roasted products are described. The deformation temperature under load is 80°C higher than that called for by the standards. Furnace tests showed that the experimental brick wears evenly during operation. The experimental refractories held up to usage as well as standard refractories.

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BUGAYEV, S. P.

ACCELERATOR
ENERGY

HAASBROUHD ELECTRON ACCELERATOR

[Article by Prof. G. A. Bugayev and Genl. Leon Sol. S. P. Bugayev M. G. P. Pilsoda, Russian, No 6, 1972, pp 78-86]

JPRS 60880

28 December 1973

17

Progress in the study of elementary particles is closely connected with the increase of accelerator energy. Experiments in high energy physics are aimed at the investigation of processes taking place in the collision of particles, sped up in the accelerator, with the nuclei of a target substance. The higher the energy of the projectile particles, the more nuclear reactions can be observed. The Fermilab accelerator, the world's largest, speeds up protons to the energy of 76 billion eV.

Important information on processes occurring between interacting particles can also be obtained using leptons, namely high energy electrons. The nature of deflection or scattering of electrons allows a judgment about the distribution of electric and magnetic fields in the particles. In the linear accelerator at Stanford (USA) electrons are sped up to the energy of 31.5 MeV. Unfortunately, the number of particles accelerated to high energies is usually small and their current is millions of, at best thousands of an ampere.

Accelerators are employed not only for scientific investigations in nuclear physics, in medicine and biology, for example, the influence of radiation on organisms is studied with their help. Accelerators are also used in industrial technology for non-destructive checking of large-sized and thick-walled objects and materials in machine building for their physical properties of fast-moving machine parts and materials in physics, chemistry and many other fields.

For all these purposes one employs mainly electron accelerators -- betatrons, electron synchrotrons and their close relatives. Accelerators are no longer by the means of energy, but by the number of accelerated particles and the cost of installation. Usually installations are chosen which yield on electron energy from 1 to 20 MeV and a current from hundredths of an ampere to whole amperes.

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[1 - USSR - L]

USSR

UDC: 8.74

BUGAYEV, V. N., SAVINKOV, V. M., PESTEREV, V. F.

"Using a Digital Computer to Set up a Class Schedule in an Institution of Higher Education"

V sb. Primeneniye mat. metodov i vychisl. tekhn. v univ. vyssh. uchebn. zavedeniyami. Vyp. 2 (Use of Mathematical Methods and Computer Technology in Administration of Institutions of Higher Education--collection of works), vyp. 2, Moscow, 1971, pp 126-138 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V564)

Translation: The compilation of a class schedule is treated as a problem in distribution of resources on a network model of the academic process when constraints imposed on the resources are given. The network model of the academic process is represented by a network graph which maps the course of the academic process in a plane. A vertex on the network graph denotes an educational institution (lecture, exercise, seminar, practical class, supervisory work, laboratory work, course planning, independent work, examination) provided by the plan for passing through the l -th discipline. The arcs going away from the l -th discipline or approaching it determine the connections between the given discipline and other disciplines of the academic plan. The initial data for construction of the

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USSR

BUGAYEV, V. N. et al., *Primeneniye mat. metodov i vychisl. tekhn. v upr. vyssh. uchebn. zavedeniyami*, vyp. 2, Moscow, 1971, pp 126-138

network graph are the sequences of classes offered by the departments in the academic division in the appropriate form. After summarizing the network graphs of all academic disciplines of a single specialty, a network graph of the academic process is obtained. An algorithm is presented for constructing the initial network graph which accounts for all relations between disciplines, together with an algorithm for optimizing this graph in the case of given restrictions on resources. Resources are understood to mean the set of academic disciplines with the established sequence of going through them, the actual presence of a teaching staff, classrooms (auditorium capacity), academic divisions of pupils (groups of students), the study time in the semester (without counting time for independent work). In this connection, all resources are utilized in the academic process with an intensity set by the class schedule. The authors describe the appropriate procedure for evaluating the intensity of utilization of the auditorium capacity and the professorial and instructional staff. The index K_j is proposed for evaluating the quality of a class schedule as the

extent to which the schedule satisfies requirements: $K_j = \sum_{i=1}^n \gamma_i$, where γ_i is

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USSR .

BUGAYEV, V. N. et al., *Primeneniye mat. metodov i vychisl. tekhn. v upr. vyssh. uchebn. zavedeniyani*, vyp. 2, Moscow, 1971, pp 126-138

the expert estimate of the i -th requirement. It is noted that for determining γ_i , a sample examination is conducted in which 100 subjects (76 instructors and 24 academic laboratory workers) give their opinion on the requirements for class schedules. A plan for completion of an academic discipline and a class sequence are given in the appendix. One table, two illustrations. V. Mikheyev.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--A FOLLOW UP STUDY OF PATIENTS WITH TRANSITORY DISORDERS OF
CIRCULATION IN THE VERTEBRO BASILLAR BASIN -U-
AUTHOR-(03)-SARIN, M.I., KRAVCHENKO, L.G., BUGAYEV, V.S.
CCOUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 6, PP 808-811
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, BLOOD CIRCULATION, ATHEROSCLEROSIS, HYPERTENSION,
VENEREAL DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0922 STEP NO--UR/0246/70/070/006/0808/0811
CIRC ACCESSION NO--AP0126581
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126581

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS CONDUCTED A FOLLOW UP STUDY OF 100 PATIENTS WHO WERE DISMISSED FROM HOSPITALS 1-5 YEARS BEFORE, WITH A DIAGNOSIS OF TRANSITORY DISORDERS OF CEREBRAL CIRCULATION IN THE VERTEBRO BASILLAR SYSTEM (IN ATHEROSCLEROSIS, HYPERTENSIVE DISEASE, SYPHILITIC VASCULITIS, CERVICAL OSTEOCHONDROSIS AND WITH INITIAL SYMPTOMS OF ATHEROSCLEROSIS). THE MOST SEVERE DEVELOPMENT WAS SEEN IN THE GROUP OF PATIENTS WITH LATE STAGES OF HYPERTENSIVE DISEASE AND ATHEROSCLEROSIS. IN TRANSITORY DISORDERS OF CEREBRAL CIRCULATION DUE TO CERVICAL OSTEOCHONDROSIS AND INITIAL SYMPTOMS OF ATHEROSCLEROSIS THE FOLLOW UP STUDIED DISPLAYED MORE FAVORABLE STATES. IN ALL CASES THE DECISIVE ROLE IN THE DEVELOPMENT OF THE DISEASE WERE CONDITIONS OF LIFE, WORKING READAPTATION AND INTRAFAMILIAL RELATIONSHIP, AS WELL AS CONTROL ON BEHALF OF THE PHYSICIAN AND OUTPATIENT TREATMENT.

UNCLASSIFIED

USSR

UDC 543.52:546.21

GORENKO, A. F., SEAKUN, N. A., SHEVCHENKO, G. M., ZADVORNIY, A. S.,
BUGAYEVA, N. I., and KLYUCHAREV, A. P.

"Gamma-Activation Analysis of Carbon in Uranium and Thorium"

Moscow, Atomnaya Energiya, Vol 34, No 1, Jan 73, pp 53-54

Abstract: In determining carbon in fissionable elements and materials on their base, a higher sensitivity than by conventional methods results when the carbon is burned out in the oxygen flux from the samples preliminarily irradiated with gamma-quanta. In this case C^{11} , developing in the $C^{12}(g, n)$ reaction, is selectively extracted from the active matrix and the amount of collected $C^{11}O_2$ is determined from the radioactive decay of the carbon isotope by a sensitive nuclear detector. The process of accumulation and decay of $C^{11}O_2$ molecules, extracted from U, Th, and $(C_{15}H_{12}O_5)_n$ samples, irradiated by bremsstrahlung of gamma-quanta generated on tungsten converter by a 30-Mev electron bundle, is demonstrated. The activation spectrum in ascarite in determining carbon in uranium carbide is shown. Under the selected activation conditions (electron energy 30 Mev, current 10 μ A, irradiation 20 min.), the sensitivity in determining carbon in uranium and thorium is $1.3 \cdot 10^{-7}$ g. Two figures, four bibliographic references.

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1/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--CALCULATION OF EQUILIBRIUMS IN COMPLEX SYSTEMS. USE OF REACTION
COORDINATES FOR CALCULATING THE EQUILIBRIUM COMPOSITION OF SYSTEMS OF

AUTHOR--BUGAYEVSKIY, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 405-11

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCULATION, CHEMICAL EQUILIBRIUM, ALGORITHM, IRON, WATER,
SILVER COMPOUND, AMMONIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1995/1266

STEP NO--UR/0075/70/025/003/0405/0411

CIRC ACCESSION NO--AP0116728

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116728

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ALGORITHM IS SUGGESTED FOR
CALCG. THE EQUIL. COMPN. OF SOLNS. FOR SOME REACTIONS OF ANY TYPE
(INCLUDING HETEROGENEOUS REACTIONS) WITHOUT COMPUTERS. SOME NUMERICAL
EXAMPLES ARE GIVEN: (FE PRIME3 POSITIVE PLUS H SUB2 O IN EQUILIBRIUM
FE(OH) PRIME2 POSITIVE PLUS HPRIME POSITIVE; AGCL PLUS 2NH SUB3 IN
EQUILIBRIUM AG(NH SUB3) SUB2 PRIME POSITIVE PLUS CL PRIME NEGATIVE, ETC.
FACILITY: KHARKOV STATE UNIV., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 621.357.12.035.48:669.75

EUGENOV, YE. S., SAZONOVA, T. V., GOLOVIN, YU. M., and TYURKIN, YU. I.

"Regeneration of Sulfide-Alkali Electrolytes by Anode Solution of Cast Iron Shavings"

Alma-Ata, Khimiya i Khim. tekhnol. (Chemistry and Chemical Technology) Vyp 2, 1971, pp 160-163 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L373)

Translation: A process is described to remove thiosulfate-, polysulfides, and thioantimonates reducing the VT_k [expansion unknown] of Sb during the electrolysis of sulfide-alkali solutions by a method of anode solution of cast iron shavings. The above ions are scavanged under the influence of the divalent iron atoms and precipitate in the form of an insoluble precipitate of ferrous sulfide. For a D_a 9.0-9.5 a/m^2 and a temperature of 50°C the optimum maximum reduction in the undesirable impurities was observed. The solution purified in the above manner was then treated to remove by electrodesposition the Sb at a high energy rate.

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USSR

UDC 547.26'118

BOCHKAREV, V. N., POLIVANOV, A. N., BUGERENKO, YE. F., AKSENOV, V. I., and
CHERNYSHEV, YE. A.

"Mass-Spectrometric Fragmentation of Triphenyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

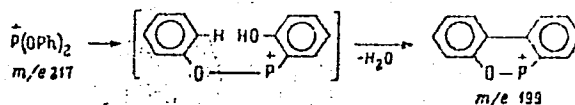
Abstract: When $P(OPh)_3$ was subjected to electron bombardment, using mass-spectrometer MKh-1303 at $250^\circ C$, with an ionizing potential of 30, an interesting rearrangement took place. The mass-spectrum of $P(OPh)_3$ showed an intensive peak (10%) of an ion with m/e 199 ($M-OPh-H_2O$)⁺ along with peaks M^+ (m/e 310, 21%), $(M-1)^+$ (m/e 309, 10%), $(M-OPh)^+$ (m/e 217, 100%), Ph^+ (m/e 77, 27%). Transitions $310^+ \rightarrow 217^+ \rightarrow 199^+$ were verified by the presence of corresponding metastable peaks. It is assumed that an ion with m/e 199 is formed in the following way: at first the diphenoxyphosphinyl cation with m/e 217 rearranges into the isomeric o-hydroxyphenylphenoxyphosphinyl cation, followed by ortho linking of two aromatic rings that leads to the formation of

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USSR

BOCHKAREV, V. N., et al., Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

9-phospha-10-oxa-9,10-dihydrophenanthrenyl cation.



The spectrum of (I) also showed the rearrangement peaks of ions with m/e 170 ($PhOPh$)⁺ 70%, m/e 153 (PhC_6H_4)⁺ 12%, and m/e 94 ($PhOH$)⁺ 20%. When the ionizing voltage in the mass spectrum of (I) reached 15 volts, the relative intensity of ions with m/e 310, 217, 77, 199, 170, 153, and 94 amounted to 47, 100, 2, 2, 4, 5, and 15%, respectively. In other words, the intensity of the rearranged ions decreased sharply.

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USSR

CHERNYSHEV, YE. A., et al., Zhurnal Obshchey Khimii, Vol. 42(104), No 7,
Jul 72, p 1648

which is assumed to be the common reaction for aryl dichlorophosphites
under the given conditions.

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USSR

UDC 547.553.1

CHERNYSHEV, YE. A., AKSENOV, V. I., PONOMAREV, V. V., GOLUBTSOV, S. A., BUGER-ENKO, YE. F.

"Organophosphorus Heterocyclic Compounds. III. Synthesis and Conversions of 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 93-96

Abstract: The method of intramolecular ring formation was used on o-xenylloxy-dichlorophosphine in the liquid phase in the presence of $AlCl_3$ to obtain 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene. The chemical conversions of 10-chloro-10-phospha-9-oxa-9,10-dihydrophenanthrene take place both with conservation of the tricyclic structure (hydrolysis, addition of sulfur, methoxylation) and with splitting of the ring containing the P-O bond (Grignard methylation). Some physical characteristics, the percentage yield and formulas are tabulated and the experimental procedures for synthesis are presented for the mentioned compounds.

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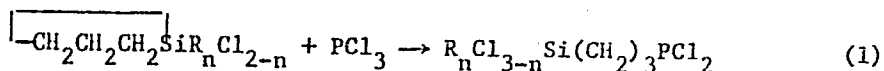
UDC 547.245+547.26'118

BUGERENKO, YE. F., PETUKHOVA, A. S., CHERNYSHEV, YE. A.

"New Method of Synthesizing Silicon-Phosphorus-Containing Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 168-172

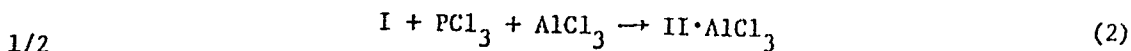
Abstract: The high reactivity of the endocyclic silicon-carbon bond in sila-cyclobutane in the processes connected with opening the ring [K. A. Andrianov, et al., Organomet. Chem. Rev., No 2, 153, 1967] predetermines the possibility of using this class of heterocycles to synthesize silicon-phosphorus-containing compounds by the scheme



II

R = alkyl; n = 0, 1, 2.

The authors succeeded in synthesizing γ -alkylchlorosilylpropyldichlorophosphines (II) by scheme (1) in the presence of aluminum trichloride as the catalyst:



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USSR

BUGERENKO, YE. F., et al., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 168-172

Thus, it was found that silacyclobutanes and silacyclopentanes react with phosphorus trichloride in the presence of aluminum chloride with the formation of silicon-phosphorus containing compounds of the $R_nCl_{3-n}Si(CH_2)_nPCl_2$ type. The compounds obtained enter into reactions characteristic of both the derivatives of trivalent phosphorus (oxidation, addition of sulfur and chlorine) and for chlorosilanes. The yields, properties and analytical data on the synthesized silicon-phosphorus containing compounds are tabulated, and the experimental procedures for synthesizing them are presented.

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USSR

UDC 547.241 547.245 547.732

CHERNYSHEV, YE. A., BUGERENKO, YE. F., PETUKHOVA, A. S.

"Thiophene Derivatives With Silicon and Phosphorus"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2186-2189

Abstract: A series of previously unknown ethyl α -thienyl(triorganosilyl) methylphosphinates (I-VI), potential antiwear additives to silicone oil, were synthesized by the Arbuzov reaction (at 120-140°) between diethyl α -thienylphosphonite (VII) and chloromethyltriorganosilanes, where the organic group is methyl, phenyl, or ethoxy. Reactivity of (VII) in the cited reaction was compared with that of diethyl phenylphosphonite, using gas-liquid chromatography. The comparative plots of the yield and reciprocal values of concentration of the reaction products versus time show that VII is less reactive than its phenyl analog. This expected result could be explained by a decrease in nucleophilic activity of P atom in VII in relation to the phenyl analog. The formulas and some physical constants of the I*-VI compounds are tabulated and the preparation procedures are described.

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USSR

UDC 547.558

CHERNYSHEV, YE. A., AKSENOV, V. I., BUGERENKO, YE. F.

"Organophosphorus Heterocyclic Compounds. 2. Synthesis and Conversions of 10-Chloro- and 10-(2-Biphenyloxy)-10-Oxo-10-Phospha-9-Oxa-9,10-Dihydrophenanthrene"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2189-2192

Abstract: A mixture of two heterocyclic (P,P-chloroxo-9-oxa-10-phospha-9,10-dihydrophenanthrene (I) and P,P-(2'-biphenyloxy)oxo-9-oxa-10-phospha-9,10-dihydrophenanthrene (II)) was prepared by gas phase pyrolysis, at 585 and 600°, of 2'-biphenyl dichlorophosphate (III) and bis-(2'-biphenyl) chlorophosphate (IV), respectively. The total yield of I and II was 42 percent and 75 percent of theoretical in cyclization of III and IV, respectively. Intramolecular cyclization of III and IV, respectively, proceeds by breaking of the P-Cl bond with formation of HCl. Formation of II in the pyrolysis of III is explained by intermediate disproportionation of III to IV and POCl₃ and formation of I in 1/2

USSR

CHERNYSHEV, YE. A., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2189-2192

the pyrolysis of IV can proceed by breaking of P-O bond with formation of o-hydroxybiphenyl. In the reactions with various reagents, e.g., Grignard reagents, lithium aluminum hydride, the compounds I and II were converted into three-membered fused heterocyclic or open-chain compounds via breaking of P-O bond of the heterocycle, depending on the nature of the substituent at the P atom. The experimental procedures are described.

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USSR

UDC 547.26'118

AKSENOV, V. I., CHERNYSHEV, Ye. A., BUGERENKO, Ye. F., and BORISENKO, A. A.

"Thione-Thiol Isomerization of o-Phenyl Dichlorothiophosphate in the Gas Phase"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, pp 484-485

Abstract: In an investigation of thione-thiol isomerization, o-phenyl dichlorothiophosphate (I) was passed through a quartz tube at 550° at a rate assuring the passage of the vapor through the tube within 40 sec. from the condensed product obtained the following compounds were isolated: PCl_3 , POCl_3 , PSCl_3 , phenyl dichlorophosphate, starting material, S-phenyl dichlorothiophosphate, and additional six high-boiling compounds which were not identified. Thus the thionethiol isomerization was shown to take place; due to highly labile S-P bond, however, many side reactions accompany the isomerization.

1/1

USSR

UDC 547.622+547.736+547.836

CHERNYSHEV, E. A., BUGERENKO, E. F., AKSENOV, V. I.

"Conversions of O-2-Biphenyl Diclchlorothiophosphate in the Gas Phase"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, p 1423

Abstract: It was observed that on passing O-2-biphenyl dichlorothiophosphate ($2\text{-C}_6\text{H}_5\text{C}_6\text{H}_4\text{OP(S)Cl}_2$) in the gas phase at high temperatures through a quartz tube 90% of the material was transformed into cyclic products, namely dibenzothiophene and 10-chloro-10-thio-10-phospha-9-oxa-9,10-dihydrophenanthrene. The latter is presumably formed by intramolecular cyclization, whereas the former is formed possibly as a result of a thione-thiol isomerization.

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USSR

UDC 547.245

BUGERENKO, YE. F., PETUKHOVA, A. S., BORISENKO, A. A., CHERNYSHEV, YE. A.

"Problem of the Structure of the Products of Interaction of Alkyl Silane Halides with Sodium Dialkyl Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, p 216

Abstract: For the products of the interaction of $(CH_3)_3SiCl$, $(CH_3)_2SiCl_2$, CH_3SiCl_3 and $SiCl_4$ with sodium diethyl phosphite, in the ^{31}P nuclear magnetic resonance spectra, signals are observed which are split into a quintet as a result of the interaction of the phosphorus nuclei with the four CH_2 -protons of the ethoxyl groups ($J \approx 8$ hertz). The chemical shifts of the observed signals with respect to 85% of the orthophosphoric acid δ_P lie within the limits of -123 to -128, that is, in the range characteristic of trialkyl phosphites [J. R. Van Weser, et al., J. Am. Chem. Soc., No 78, 5715, 1956] and organosilyl phosphinates [K. Lissleib, et al., Angew. Chem., No 79, 59, 1967] and not the derivatives of the four-coordination atom of phosphorous. Thus, the ^{31}P nuclear magnetic resonance spectra confirm the structure of the products of interaction of trialkyl silane halides with sodium dialkyl phosphites, just as the derivatives of trivalent phosphorus containing the SiOP fragment. 1/1

USSR

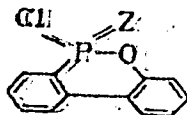
UDC 547.677.2:26.118.07

CHERNYSHEV, Ye. A., BUGERENKO, Ye. E., and AKSENOV, V. I.

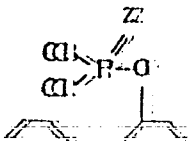
"A Method of Making Derivatives of 9-Chloro-9-phospha-10-oxa-9,10-dihydro-phenanthrene"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289095, division C, filed 9 Oct 69, published 8 Dec 70, p 77

Translation: This Author's Certificate introduces: 1. A method of making derivatives of 9-chloro-9-phospha-10-oxa-9,10-dihydrophenanthrene of the general formula



where Z is O or S. As a distinguishing feature of the patent, compounds of the general formula



USSR

CHERNYSHEV, Ye. A., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan. 71, Author's Certificate No 289095, division C, filed 9 Oct 69, published 8 Dec 70, p 77

where Z is O or S are heated in the gas phase with subsequent isolation of the goal product by conventional methods.. 2. A modification of this method distinguished by the fact that the process is carried out at a temperature of 500-600°C. 3. A modification of this method distinguished by the fact that the process is carried out in such a way that the initial product is in the reaction zone for 10-100 seconds..

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SYNTHESIS OF ORGANOSILICON ORGANOPHOSPHORUS COMPOUNDS BY THE
ARBUZOV REACTION -U-
AUTHOR-(03)-BUGERENKO, YE.F., PETUKHOVA, A.S., CHERNYSHEV, YE.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 609-11
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC SYNTHESIS, ORGANOSILICON COMPOUND, ORGANIC PHOSPHORUS
COMPOUND, CHLORINATED ORGANIC COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1175 STEP NO--UR/0079/70/040/003/0609/0611
CIRC ACCESSION NO--AP0128597
UNCLASSIFIED

2/2 014
CIRC ACCESSION NO--AP0128597
ABSTRACT/EXTRACT--(U) GP-0-
GRAPHIC INFORMATION.

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS

UNCLASSIFIED

B
USSR

BUGLOV, Ye., Candidate of Medical Sciences, Head Pathological Phynology Department, Belorussian Scientific Research Institute for Blood Transfusion

"Stabilization of Whole Blood"

Moscow, Meditsinskaya Gazeta, 5 May 70, p 3

Abstract: The title institute has developed a new sorption method of stabilizing blod by decalcifying it with insoluble, high-molecular-weight polymer sorbents, cellulose derivatives. e.g., cellulose esters and phosphoric acid (preparation M-1). M-1 is made by thermal processing of cellulose (medical gauze) saturated with phosphoric acid in the prosence of urea, after which the ester is changed into the salt form by treating it with sodium chloride solution. Freshly prepared sorbent blood differs from whole blood because it has a lower content of potassium, magnesium, thrombocytes and almost no calcium. In all other respects - morphological, biochemical, and functional, e.g., with respect to formed elements and plasma - it is indistinguishable from whole blood. Extensive experimental studies and clinical trials have shown that sorbent blood is superior to heparinized and citrated blood in speed of action and absence of major side effects. It has been found particularly valuable in treating various forms of anemia and hemorrhagic shock.

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SOME DATA ON THE CHARACTERISTICS AND CLINICAL USE OF THE NON
CITRATED DONOR PLASMA -U-
AUTHOR--(04)--DOVGAEV, S.I., DANILOV, I.P., ~~BUGLOV, YE.D.~~, BUGLOVA, YA.F.
COUNTRY OF INFO--USSR
SOURCE--ZDRAVOKHRANENIYE BELORUSSII, 1970, NR 4, PP 80-83 *B*
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BLOOD PLASMA, CALCIUM, PHOSPHATE, CELLULOSE, DONOR BLOOD,
BLOOD COAGULATION, LIVER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0133 STEP NO--UR/0477/70/000/004/0080/0083
CIRC ACCESSION NO--AP0129389
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE-- 30OCT70

CIRC ACCESSION NO--AP0129389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS HAVE SHOWN THAT IN THE NON CITRATED AND NATIVE PLASMA, OBTAINED FROM THE BLOOD, STABILIZED WITH THE HELP OF THE FIBRED SURBENT OF THE CALCIUM IONS, CELLULOSE PHOSPHATE (THE M-I PREPARATION) THE COAGULATION SYSTEM FACTORS HAVE BEEN BETTER PRESERVED. THE NON CITRATED PLASMA WITH ITS PHYSICO CHEMICAL AND CURATIVE PROPERTIES HAS FAVOURABLY DIFFERED FROM THE CITRATED ONE. DUE TO A LOWER REACTOGENESIS ITS USE IS PREFERRED IN CASES OF THE DISEASES ACCOMPANYING A LIVER AFFECTION. FACILITY: BELORUSSKIY N-I INSTITUT PERELIVANIYA KROVI AND 1-YA KAFEDRA GOSPITAL'NOY TERAPII MINSK. MEDITSINSKUGO INSTITUTA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--AN INVESTIGATION INTO THE FATIGUE OF STEEL WITH BI HARMONIC LOADING
-U-
AUTHOR--(03)-BUGLOV, YE.G., KOLIKOV, E.A., FILATOV, M.YA.
COUNTRY OF INFO--USSR **B**
SOURCE--PROBLEMY PROCHNOSTI, JAN. 1970, (1), 46-49
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CYCLIC LOAD TEST, STEEL PROPERTY, FATIGUE STRENGTH/(U)0962
STEEL, (U)ST4 STEEL, (U)ST45 STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0275 STEP NO--UR/3663/70/000/001/0046/0049
CIRC ACCESSION NO--AP0124035
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0124035

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FATIGUE STRENGTH OF THREE STEELS, ST. 4, ST. 45, AND 09G2, WAS INVESTIGATED UNDER CONDITIONS OF TWO SUPERIMPOSED CYCLIC LOADS OF SUBSTANTIALLY DIFFERENT FREQUENCIES. SUCH A CONDITION OCCURS IN VARIOUS APPLICATIONS, E.G., ENGINES, POWER EQUIPMENT, AVIATION, AND SHIP CONSTRUCTION. EQUATIONS ARE PRESENTED FOR EVALUATING THE FATIGUE LIFE WITH BI HARMONIC LOADING IN TERMS OF THE SINGLE FREQUENCY FATIGUE CURVE.

UNCLASSIFIED

1/2 021
UNCLASSIFIED
TITLE—SOME DATA ON THE CHARACTERISTICS AND CLINICAL USE OF THE NON
CITRATED DONOR PLASMA —U—
AUTHOR—(04)—DOVGAEV, S.I., DANILOV, I.P., BUGLOV, YE.D., BUGLOVA, YA.F.
COUNTRY OF INFO—USSR
SOURCE—ZDRAVOKHRANENIYE BELORUSSII, 1970, NR 4, PP 80-83
DATE PUBLISHED—70
SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS—BLOOD PLASMA, CALCIUM, PHOSPHATE, CELLULOSE, DONOR BLOOD,
BLOOD COAGULATION, LIVER
CONTROL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—3003/0133
STEP NO—UR/0477/70/000/004/0080/0083
CIRC ACCESSION NO—AP0129389
UNCLASSIFIED